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ISD NEWS AND VIEWS

A PUBLICATION OF THE INFORMATION CENTER BUREAU

MONTANA DEPARTMENT OF ADMINISTRATION
INFORMATION SERVICES DIVISION
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EDITOR: TERI LUNDBERG

ENTRY ASSIST

If you've ever wished you could speed up the operation of your 3270 type terminal, there is help available for some of you. The 3274 Control Unit Entry Assist function provides new capabilities for limited local format, entry, and edit control when operating under certain host editor programs, among them SPF. Some of the features of Entry Assist are:

- Display of an 'on-demand scale' line for establishing margins, tab stops, and an 'end of line' signal position.
- Screen Margins
- Tabbing
- Audible 'end of line' signal
- Word wrap (automatic new line)
- Typematic forward and reverse cursor movement by word (word advance, word return)

  Note: "typematic" is the term IBM uses to describe what is happening if a key continues to repeat its function when it is held down. This is common on newer terminals and standard on text keyboards.

- Word delete
- Typematic character delete
- Typematic error-correcting backspace when in insert mode
- On-demand cursor position display

The 3274 Entry Assist function is available on the following terminals if attached to a properly configured 3274 Control Unit:

- 3178 Model 2C
- 3278 Models 2, 3, and 4, and Model 5 in Model 2 mode
- 3279 Models 2A, 2B, 2X, 3A, 3B, 3X, S2A, S2B, and S3
- 3179
- 3180

While everyone will probably have a favorite feature depending on their applications, the following high speed delete and cursor movement functions have proven quite useful editing TSO datasets:

- Repeat character delete

- Word delete and typematic word delete

- Word advance and backup

- Error correcting backspace

The Information Center is offering a free seminar on Entry Assist on June 12, 1985 from 10:00 a.m. to noon in the ISD Education Center, Room 14, Mitchell Building. The Entry Assist User's Guide will be available at the seminar for $2.00.

Note: Entry Assist is ONLY available on terminals attached to a 3274 Control Unit.

COM (COMPUTER OUTPUT MICROFILM) ADVANTAGES

How well is your agency taking advantages of the benefits of COM? Are you aware that one cubic foot of COM fiche at standard 48X reduction, will replace 512 cubic feet of standard 11" X 14" computer printout? That's a room 8' X 8' X 8'!

ISD operates a full service COM facility in the Records Management Section. The cost of COM masters has been reduced from $2.63 each to $2.50 each. On July 1, 1985, there will be a further reduction to $2.25 each. Call Records Management at 444-2716 for more information on establishing COM fiche output for your agency.

LASER PRINTER (IBM 6670) OCL (OPERATOR CONTROL LANGUAGE)

The IBM 6670 has many features which make it an attractive alternative for computer output. Among them are: high print quality, various type styles and sizes, ability to print on standard 8 1/2 X 11 paper (including letterhead), and the fact that it is accessible by almost any mainframe program.

The 6670 may be used as a 1403 line printer, but use of its many special features requires Operator Control Language instructions (OCL). While the instructions themselves are fairly straightforward, the procedure for getting the OCL to the 6670 to affect the printing of your job is a bit different for each type of job submittal.

At present, 6670 users route jobs to it from ATMS, batch programs (including execution of DCF on a DLF document), and from systems running under TSO, mainly SPF option 4.9 and SAS full screen product letter writer procedure FSLETTER.

The procedures for submitting a job or document and associated OCL are as follows:

- ATMS

  1. Create (or get) a document in working storage which has 6670 OCL in front of it.
  2. Issue the appropriate print formatter command required for your document
     - p - for documents containing ATMS formatter controls
     - script - for documents containing DCF formatter controls
  3. Press the print PF key (PF7)

- Batch jobs

  Your job stream must be set up so that the OCL gets to the 6670 immediately before the data you are printing. This can be accomplished by having one step create the OCL and the next step create the reports you wish printed on the 6670.

Sample JCL would resemble the following:

```
//PRNT6670 JOB (xxxxx,53),0187.34.WULF
//**********************************************************************
//** THIS JOB PRINTS REPORTS ON THE 6670, USING SOME OF ITS          **
//**   SPECIAL   FEATURES   CONTROLLED   BY   OCL   (OPERATOR   CONTROL
**
//** LANGUAGE) COMMANDS CREATED IN A SEPARATE STEP.                  **
//**********************************************************************
//OCLCREAT EXEC PGM=IEBGENER
//**********************************************************************
//** THIS STEP CREATES 6670 OCL                                      **
//**********************************************************************
//SYSUT2 DD SYSOUT=A,DEST=CSD6670
//SYSUT1 DD *
,PRINT 107
QUA 1_DUP 1_PAP 2_INT 1.5 6.5_TYP 86 11 96 11_
-
-  (Call the ISD TEXT unit at 444-2859 for complete OCL)
-
-Route finished output to Gary Wulf, ADMIN-ISD      BOX 34
,end
/*
//REPORTS  EXEC PGM=REPORTEM
//**********************************************************************
//** THIS STEP CREATES THE REPORTS AND ROUTES THEM TO THE 6670       **
//** FOR PRINTING.                                                   **
//**********************************************************************
//INFILE   DD DSN=MY.DATA.FILE,DISP=SHR
//REPT6670 DD SYSOUT=A,DEST=CSD6670
```

- SPF 4.9

1. LOGON to TSO with a size of 1200
2. Create a document in a standard OS sequential dataset or PDS member with OCL
3. Go to SPF 4.9
4. Select Option 2 - Final Document options, fill in the name of your document dataset and the enter key.
5. The SCRIPT/VS Final Options Screen is displayed. Device type should be 1403. Profile Dataset should be SYSW.SCRIPT.R30.MACLIB(DSMPROF3) and SCRIPT LIB Dataset should be SYSW.SCRIPT.R30.MACLIB. After making any changes, press enter.
6. When three asterisks appear (***), press the PF3 Key to go directly to print or the enter key to view the document. If you choose to view the document, press the PF3 key when done to continue processing.
7. Foreground Print Options screen is displayed. Sysout Class should be A,,6670. Job Statement Information should look like this:
   - //CXBBBB job (XXXXX,53),BBBB.34.NAM,MSGCLASS=9
   - /*OUTPUT 6670 DEST=RMT31
   - //*
   - //*
8. To print your document, enter either PD or PK and press the enter key.
9. Press the PF3 key and sign off.

- SAS FSLETTER

1. Create a letter using FSLETTER EDIT procedures
2. Create a FORM using FSLETTER EDIT procedures, selecting 6670 as the print device
3. Associate the FORM with the letter

4. SEND the letter (either from the FSLETTER EDIT screen or a PROC FSEDIT or FSBROWSE screen)

   Note: FSLETTER has some quirks associated with its use of the 6670. One is the inability to create enough lines of OCL to include routing instructions when using a 24 line terminal. Call Gary Wulf at 444-2555 for help.

NEW TERM CONTRACT

A term contract has been established for terminals and printers. You may purchase the following items by submitting a justification and purchase order to ISD for approval. Please identify the term contract number 962-85-B on the front of your purchase order.

Terminals

Unit	Model	Cost	Transportation
3178	C2 and/or C3 and/or C4	$1,290.00	$13.00
3179	001	$1,721.00	$23.00
3180	110 and/or 210	$1,721.00	$25.00
3278	002 and feature 4627	$1,900.00	$39.00
3279	S2A and feature 4627	$2,796.00	$31.00

Printers

Unit	Model	Cost	Transportation
3287	001 Feature 8700 and 8331	$5,146.00	$49.00
3262	013	$12,620.00	$276.00
3268	002	$7,500.00	$105.00

TECHNICAL NOTES -- SAS LIBRARIES

If you are using SAS and storing SAS datasets in SAS libraries on disk, there are three things you must watch out for. The first two are related to cost, and the last is due to an incompatibility problem between SAS data format and our disk space management system, DMS/OS.

We have noticed that a lot of SAS data libraries stored in the TSO pool are over the maximum size allowed for cheap data storage rates. The TSO pool rates are variable depending on the size of the dataset, according to the following schedule:

SIZE	Cost per megabyte (MB) per day
Under 5 MB	10 cents
5 - 10 MB	15 cents
Over 10 MB	20 cents

For comparison, the cost of data storage in the RESIDENT pool is always 13 cents per MB per day. The difference is that you must back up your own data when it is in the RESIDENT pool.

Another cost consideration is the block size of the dataset. Our installation has established parameters which cause SAS to select full track blocking on 3330 and 3350 devices, and half track blocking on 3380's. However, we have noticed that some SAS libraries on 3380's have a blocksize of 32K (the maximum allowed by our operating system). This results in wasting about 15K of space on each 3380 track, which you pay for. If you are creating SAS libraries, do not specify DCB information and SAS will pick the correct size for the device. In other words, be lazy and you'll be right.

The DMS/OS incompatibility problem is more serious. To quote from an "URGENT" message from the DMS vendor, "A loss of data problem has been discovered in the DMS/OS Restore and Volume Configurator processing of SAS datasets. The use of an EOF record by SAS is incompatible with DMS."

This means that one of the main reasons for using the TSO pool for SAS libraries -- nightly backup by ISD -- is not only more expensive, but dangerous besides. Until a fix for this problem is installed, we recommend you move your critical SAS libraries to RESIDENT and use PROC COPY to back them up yourself.

For assistance with the PROC COPY procedure, call Gary Wulf at 444-2555 or Randy Holm at 444-2824.

MICROCOMPUTER SECTION

LOTUS 1-2-3 NUMERIC KEY PAD

Using the numeric key pad to enter values with 1-2-3 can be frustrating because the numeric key pad serves two functions. The two functions include entering values when num lock is on and positioning the cell pointer for your next entry. When the num lock is off, turning num lock on to enter values and off to position the cell pointer makes it impractical to use it for both. The trick is to leave the num lock off and hold the left shift key down to enter values. Holding the shift key down while using the numeric key pad has the same effect as turning num lock on.

TERM CONTRACT ADDITIONS

IBM has added the following items to their term contract. Please update your term contract information package.

	ITEM	DESCRIPTION	PRICE
1.	Model 4201	Proprinter	$384.30
2.	Model 3852	Color Jet Printer	$521.50
3.	F/C 2880	5250 Enhanced Convenience Kit	$675.50
4.	F/C 0213	Network Adapter	$486.50

COMPUTER MEMORY AND STORAGE

Note: The following two articles deal with IBM personal computers and compatibles. These articles are from "An Inside Look At Computer Memory" by T.R. Reid in the May 1985 issue of LOTUS (Volume one/Number one). T. R. Reid is the Denver bureau chief of The Washington Post and author of The Chip, published by Simon and Schuster.

Random Access Memory

RAM (Random Access Memory) is a microcomputer's TEMPORARY storage shelf. RAM holds the instructions for whatever program is being used and whatever characters are being typed while using these programs. The more RAM a computer has the more powerful programs it can run and the more data it can work with.

Back in 1977, one of the first successful personal computers boasted a full 4K of RAM. This meant that the computer could store slightly more than 4,000 characters or 4,000 bytes or 4 kilobytes (4K) in its random access memory. With this amount, this machine could do little more than play games.

Today, few computers buyers even look at a machine with less than 128K of random access memory. 512K is becoming more common. RAM is read-write memory: a user can read the information stored in them as well as write new data to replace what's there.

RAM has two drawbacks. First, it is not cheap enough to be used for mass storage. Worse still, RAM chips are volatile. They lose all their stored information when the power is cut off. Many software packages prompt you to save your work on disk often. To save on disk means to transfer your data from the computer's internal RAM chips to an external--and nonvolatile--memory device. That device is usually a floppy disk or a hard disk.

Permanent computer storage

The most familiar storage device for personal computers is the 5 1/4 inch floppy disk. Standard floppy disks are doubled sided disks that can hold approximately 360,000 (360K) items of data including letters, numbers, special characters and spaces.

When you format a disk on microcomputer, a regular pattern of 40 concentric circles or tracks is electronically inscribed onto the disk's magnetic surface. Each track is divided into nine rectangular sectors. Your data--letters, numbers, characters, spaces--is magnetically encoded and stored within these sectors. Information about your disk's contents is placed on the directory track, and information that enables the disk to initiate computer operations is placed on track 0.

Floppy disks tend to multiply. One day all the data is on a few disks, then a dozen, and then more. One solution is a hard disk. The standard hard disk is a 10-million byte or 10 MB unit. All the programs from 24 floppy disks can be stored on a single disk with room to spare. The hard disk is much faster at reading and writing data. Unlike a floppy disk, a hard disk can't be transported from one computer to another. For this reason, hard disk systems need at least one floppy-disk drive in order to provide users with software portability.

A splotch of spilled coffee or a surge of voltage through the power line and the data on a disk can be gone with the wind. For this reason it is wise to back up program and data disks regularly.

Laser disk technology offers the promise of unbelievable storage capacity--more than two billion pieces of data on double-sided floppy. This will permit, for example, the marketing of a single disk containing every telephone listing in California--with room left over for Washington and Oregon. A few read-only laser disks are available for business computers now. Within a year they should be generally available--at high prices. By the end of the decade, low-cost, billion-bit laser disk units may be commonplace.

POSTAGE REDUCING SOFTWARE

PostWare Software from PostalSoft, Inc. allows IBM and compatible personal computer users to reduce their mailing costs by pre-sorting first and third class bulk mailings (200 pieces or more) by zip code and carrier route. This software prints mailing labels in sorted order, requires 192K of memory, two disk drives, a color or a monochrome monitor, and a printer. The price is $495.00.

The Information Center has not evaluated this product and does not provide training on this product. For more information on PostWare, contact PostalSoft at 2115 Sunrise Drive, LaCrosse, Wis 54601.

GENERAL NEWS

COLOR ANALYSIS

The Systems Development Bureau's (SDB) Project Team responsible for the design, development and implementation of the Department of State Land's (DSL) State Trust Land Management System recently completed a "Color Analysis" to determine what color combinations would be most appropriate for the on-line portion of the system. The following color combinations were selected:

For Inquiry:

- Green literals
- Yellow data

For Data Entry:

- Green literals
- Yellow data
- Pink for highlighting messages and errors

The colors and combinations selected were a consensus of 86% of the participants who provided input to the analysis and appear to provide the user (Department of State Lands) the most satisfaction.

Initially for both data entry and inquiry, bright colors seemed to be the preference of the participants. However, after a sustained period of time the preference changed to softer colors. Hence, colors that do not clash with one another, are easy to read, but not harsh on the eyes.

Also, the fewer colors on a screen the better. For example, when another color was introduced for screen headings, most participants felt it was "too much--confusing--didn't know where to look--what was the priority, etc".

Anyone interested in further information on the study may contact Lois Lebahn, Secretary III at 444-3987.

COMPUTER TRIVIA

SYSTEM RESOURCES SUMMARY

How much disk space is available on the IBM 3033 mainframe computer? Total disk space available is 31,335 megabytes (million bytes). The IBM 3033 has 36 3380 disk drives, 26 3350 disk drives, and 2 3330 disk drives. Currently, it is running at 70% capacity. Other storage available includes the tape library which has 18,861 tapes on site and 1695 archived at a remote site. The IBM 3033 has 15 tape drives, 14 6250 BPI (Bytes Per Inch) and 1 800/1600 BPI.

Please review your tape list daily and release tapes you are not using.

INCREASING YOUR COMPUTER VOCABULARY

- CPU
  - Stands for Central Processing Unit. It is the part of the computer that executes instructions.
- BIT
  - Short for Binary Digit. It is the fundamental unit of computer storage. A single bit can represent either the value zero or one.
- BYTE
  - A unit of computer storage, a group of eight bits. Can represent one character.
- KILOBYTE
  - Often referred to as K bytes. K bytes equal 1024 bytes.

TRAINING SCHEDULE

MAINFRAME CLASSES

CICS COMMAND LEVEL PROGRAMMING (ISD45): presented by Ron Armstrong and Colin Jenkins of Technical Services

DATE: June 17 - June 21, 1985
TIME: 8:30 a.m. to 4:00 p.m.
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $150.00
LIMIT: 8
PREREQUISITE: Basic Terminal Skills or equivalent terminal experience, COBOL experience, and CLEVEL, IIS class on command level programming (self-paced, approx. 20 hours)
CANCELLATION DATE: June 10, 1985

This class is structured to teach the basic skills necessary to design, code and test CICS programs. In addition to covering the basics of command level coding itself, an emphasis will be placed on workable examples and standards as they exist in the ISD Data Center. Class projects will give each student experience in designing, coding, modifying, testing and debugging an actual CICS transaction. It is assumed that all students are proficient in batch type programming.

The following manuals are included in the class fee:

- CICS Version 1, Rel. 6, Application Programming Primer Volume 1 (5740-XX1)
- CICS Version 1, Rel. 6, Application Programming Primer Volume 2 (5740-XX1)

The following manuals must be provided by the student. If they are unavailable through your agency, they can be purchased through the Information Center.

- CICS Application Programmers Reference Manual $33.00
- CICS Program Debugging Reference Summary $1.90

Please call Wendy at 444-2856 or Sheila at 444-2974 to sign up for the IIS prerequisite or purchase manuals.

BASIC TERMINAL SKILLS (ISD12): presented by Wendy Wheeler of the Information Center

DATE: June 28, 1985
TIME: 8:30 a.m. to 4:00 p.m.
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $50.00
LIMIT: 8
PREREQUISITE: 3270nd (IIS class on terminal operation)
CANCELLATION DATE: June 21, 1985

Learn the basics of using a computer terminal. Become confident manipulating data using the SPF editor. Learn how to use the more common SPF Utilities.

Know how to check your job status and output using SDSF. This course is a prerequisite for many other ISD classes.

CULPRIT FOR PROGRAMMERS: presented by Randy Holm of the Information Center

DATES:	July 29 - August 6, 1985 No class on August 1.
TIME:	8:30 a.m. to 4:30 p.m.
PLACE:	ISD Education Center, Room 14, Mitchell Building
COST:	$150.00
LIMIT:	12
PREREQUISITE:	TSO/SPF, JCL helpful
CANCELLATION DATE:	July 22,1985

This class is designed for those with programming experience who plan to generate reports from existing databases or standard files. There will be optional lab time available to everyone the week of August 6 to August 10.

MICROCOMPUTER CLASSES

BEGINNING MICROCOMPUTER SKILLS (OA02): presented by the staff of the Information Center

DATE: July 17, 1985
CANCELLATION DATE: July 10, 1985

DATE: July 18, 1985
CANCELLATION DATE: July 11, 1985

TIME: 8:30 a.m. to 4:30 p.m.
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $50.00
LIMIT: 8
PREREQUISITE: None

This course will give participants brief hands on experience with microcomputers. Topics to be covered:

- The machine
- The operating system
- Word processing
- Spreadsheets and graphics
- Data management
- Communications

All class time will be spent using microcomputers and software. The participant will learn what microcomputers can do and how to approach them. They will become familiar with the system. This course or its equivalent will be a prerequisite for many future microcomputer courses.

INTRODUCTION TO LOTUS 1-2-3 (OA12): presented by Wendy Wheeler of the Information Center

DATE: July 19, 1985
TIME: 8:30 a.m. to 4:30 p.m.
PLACE: ISD Education Center, Room 14, Mitchell Building
CANCELLATION DATE: July 12, 1985
COST: $50.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills (OA02)

This course is designed for anyone with little or no previous 1-2-3 or microcomputing experience.

Introduction to LOTUS 1-2-3 will concentrate on 1-2-3 spreadsheet commands, design and basic what-if analysis. The more advanced features such as macro programming, one and two-way sensitivity analysis tables and database commands will be covered in the advanced course.

Class format consists of lecture and hands-on practice followed by lab time for further experience.

CROSSTALK XVI (OA25): presented by Dave Marshall of the Information Center

DATE: July 23, 1985
TIME: 8:30 a.m. to 4:30 p.m.
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $50.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills or equivalent
CANCELLATION DATE: July 16, 1985

Crosstalk XVI is a microcomputer communications software package. This course is designed to familiarize the user with asynchronous communications using a microcomputer and this software. It explores what can and cannot be done and how it is done. It will also teach the user how to use and configure Crosstalk XVI for communicating with remote computers. Most features of Crosstalk XVI (with the major exception of the script file command language) will be covered.

INTRODUCTION TO WORDPERFECT (OA18): presented by Sheila Morasko of the Information Center

DATES: July 9 and 10, 1985
TIME: 8:30 a.m. to 3:30 on July 9, 8:30 a.m. to noon on July 10
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $50.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills (OA02)
CANCELLATION DATE: July 3, 1985

This course is intended for anyone interested in learning the basics of WordPerfect. This class will concentrate on text creation, use of function keys, editing, formatting, printing, filing, and retrieving documents.

More advanced and special features (macros, merges, math functions, text columns) will be offered in the advanced class in August.

DISPLAYWRITE 3: SPECIAL TOPICS (OA40): presented by Sheila Morasko of the Information Center

DATES: July 11, 1985
TIME: 9:00 a.m. to noon
PLACE: ISD Education Center, Room 14, Mitchell Building
COST: $25.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills (OA02) and use of Displaywrite 3
CANCELLATION DATE: July 8, 1985

This course is intended for those already using Displaywrite 3 on a microcomputer for wordprocessing. The special topics class is designed to present tips, shortcuts and advanced features of the package. This first class will cover using the Speller and Merged Name Variables. Class time will also be devoted to your specific questions.

If possible, please bring your Displaywrite software with you to class. This class is also available for those using Displaywrite 2.

Please call Wendy at 444-2856 or Sheila at 444-2974 in the Information Center if you have questions on the schedule.

To register for classes, please complete the following enrollment form and return it to Information Services.

FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS CANCELLATIONS
ARE MADE BY THE DEADLINE LISTED FOR EACH CLASS.

DEPARTMENT OF ADMINISTRATION
INFORMATION SERVICES DIVISION
INFORMATION CENTER BUREAU
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